



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/629,782	07/31/2000	Heng Lou	100.091US01	4870

7590 11/24/2003  
Foggs Slifer & Polglaze PA  
P O Box 581009  
Minneapolis, MN 55458-1009

EXAMINER
----------

SHAH, CHIRAG G

ART UNIT	PAPER NUMBER
----------	--------------

2664

DATE MAILED: 11/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/629,782

Applicant(s)

LOU, HENG

Examiner

Chirag G Shah

Art Unit

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 4-10, 13-18, 20-22 and 24 rejected under 35 U.S.C. 102(e) as being anticipated by Drapper et al. (U.S. Pub. 2001/0032334 A1).

Referring to claims 1, 10, 18 and 22, Drapper discloses in the abstract and section 0029 and claim1 of a bi-directional multi-point to point asymmetrical communication system including multicarrier telephony transport. Drapper's system comprises as disclosed in the abstract, sections 0050, 0052, 0053, 0703,0704 and figures 116 and 117 and in claim 1 of a data head end 1010 that is communicatively coupled to the network and to at least one data source 1008 (telephony and video services); at least one service unit 1042 coupled to the network; the head end includes as disclosed in the abstract, a head end multicarrier modem for modulating (serving as an encoder coupling the data head end) at least downstream telephony information on a plurality of orthogonal carriers in the first frequency bandwidth and demodulating at least upstream telephony information modulated on a plurality of orthogonal carriers in the second frequency bandwidth. Furthermore, Drapper discloses in section 0704 that any number of

Art Unit: 2664

modulation techniques may be used for transmission of the telephony information downstream. The modulation techniques utilized and performed by RF modem module may include QPSK, QAM or other modulation techniques for providing the desired data rate, thus the multicarrier modem modulates data from the at least one data source using a first modulation technique and transmits the modulated data over the network in a first frequency band to selected service units ("downstream transmission") as disclosed in the abstract, figure 116, 117 and claim 1. Thus, as disclosed in the abstract, figure 116, 117, 0704 and claim 1, each service unit includes a service unit multicarrier modem for modulating at least the upstream telephony information on at least one carrier orthogonal at the head end terminal to another carrier in the second frequency bandwidth and for demodulating at least downstream telephony information modulated on at least a band of a plurality of orthogonal carriers in the first frequency bandwidth. Thus, different modulation technique may be incorporated as disclosed in 0704 for transmission to the data head end over the same network in a second frequency band ("upstream transmission"), such that the data rate of the downstream transmission is different from the data rate of the upstream transmission as claim.

Referring to claim 4, 13, and 20, Drapper discloses in section 0535 and 0536 the system wherein the data head end is coupled to the Internet as claim.

Referring to claim 5 and 14, Drapper discloses in the abstract and in section 0703, figures 116, 117 and claim 1 of the system further comprising a telephony head end, coupled to the data head end and to the network, that transmits telephony data over the same network at a data rate different from the downstream transmission and that receives the upstream transmission for the data head end as claim.

Art Unit: 2664

Referring to claim 6, Drapper discloses in the abstract and in section 0703, figures 116, 117 and claim 1 of the system of claim 5, wherein the telephony head end includes a communication link with the data head end as claim.

Referring to claims 7 and 15, Drapper discloses in figure 119 that the system wherein the communication link includes at least one T1 or E 1 communication link as claim.

Referring to claims 8 and 16, Drapper discloses in section 0029 that the system of claim 1, wherein the multi-point to point communication system includes a network that is a hybrid fiber/coax network as claim.

Referring to claims 9,17, and 24, Drapper discloses in the abstract and 0061 and 0062 that the system of claim 1, wherein the data rate of the downstream transmission is greater than the data rate of the upstream transmission as claim.

Referring to claim 21, Drapper discloses in section 0703 and 0704 the method of claim 18, wherein modulating the data comprises modulating the data for transmission in at least one 6 MHz channel using quadrature amplitude modulation as claim.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 11, 19 and 23 rejected under 35 U.S.C. 103(a) as being unpatentable over Drapper in view of Doshi et al. (U.S. Patent No. 6,055,424).

Referring to claims 2, 11, 19 and 23, Drapper discloses in sections 0703 and 0704 that the modem uses a modulation techniques such as QPSK and QAM. Drapper fails to explicitly disclose the system wherein the encoder is a quadrature amplitude modulation (QAM) 64 encoder. Doshi discloses an invention suited for bi-directional hybrid fiber/coax networks. Doshi discloses in figure 2 and column 5, lines 27 to column 6, lines 20 the method of downstream modulation elected is 64-quadrature amplitude modulation. These elections result in a raw bit transfer rate of 30.72 million bits per second. Therefore, since Drapper's invention provides a means to select the modulation technique, it would have been obvious to one of ordinary skill in the art to modify Drapper's invention to use a 64 QAM in order to provide a high bit transfer rate and concurrently maintain QOS requirement.

5. Claims 3 and 12 rejected under 35 U.S.C. 103(a) as being unpatentable over Drapper in view of Humpleman.

Referring to claim 3 and 12, Drapper discloses in figures 98-100 and section 0537 that the system wherein the data head end in the PCDM which includes a full duplex 10BaseT Ethernet connection to a switched Ethernet network. Drapper fails to disclose a 100Base T Ethernet connection to a switched Ethernet network. Humpleman discloses of a multimedia network architecture. Humpleman further discloses in column 10 that the internal network 34 is 10 or 100base-T Ethernet. The 100base T Ethernet is used when a high bit transfer rate is needed. Therefore, it would have been obvious to modify Drapper's invention to include a 100BaseT Ethernet connection instead of a 10baseT Ethernet in order to provide a higher bit transfer rate that increase efficiency of the system.

Art Unit: 2664

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**Or faxed to:**

(703) 305-3988, (for formal communications intended for entry)

**Or:**

(703) 305-3988 (for informal or draft communications, please label  
"Proposed" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal  
Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the  
examiner should be directed to Chirag G Shah whose telephone number is 703-305-5639.

The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's  
supervisor, Wellington Chin can be reached on 703-305-4366. The fax phone number for  
the organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or  
proceeding should be directed to the receptionist whose telephone number is 703-305-  
3900.

cgs

  
Mr. Paul  
Primary Examiner